REMARKS

Summary of the Office Action

Claims 1-4, 9-11, 15, 17-18, 25-27 and 31 are considered in the Office action.

Claims 1-4, 10, 15, 17-18, 27 and 31 have been rejected under 35 U.S.C. § 102(e) as anticipated by Gilman et al. U.S. Patent No. 6,628,826 ("Gilman").

Claims 9, 11, 25 and 26 have been rejected under 35 U.S.C. § 103(a) as obvious over Gilman in view of Murashita et al. U.S. Patent No. 6,504,950 ("Murashita").

Reply

Claims 1-4, 10, 15, 17-18, 27 and 31 have been rejected under §102(e) as anticipated by Gilman. Amended independent claims 1 and 27 recite methods and apparatus that (a) obtain or include a target test sheet including a plurality of regions, each region including a known color value; (b) use or include a digital camera to create a first digital image of the target test sheet, the first digital image comprising a plurality of regions, each region comprising an acquired color value; (c) compare the acquired color values to the known color values to align the regions of the target test sheet with the regions of the digital image; and (d) generate a profile to correct a color imbalance between the acquired color values and the known color values. Applicant respectfully submits that although Gilman describes several image processing techniques, Gilman does not describe or suggest the claimed invention.

Gilman first describes a technique pertaining to conventional color film photography. In particular, color photographic film 14 is exposed to a first image of a test chart 18 that includes a plurality of color patches 19 having known spectral properties. (Col. 2, lines 31-34; Col. 3, lines 31-34). The same roll of film (or another roll of film) is then exposed to a second image. (Col. 2, lines 31-52; Col. 3, lines 54-56). The color film is processed, and the resulting images are scanned using conventional film scanner 20, which scans the first image to provide a digitized chart, and scans the second image to provide a scanned digital image. (Col. 2, lines 52-55; Col. 2, lines 65-67; Col. 3, lines 35-37). A computer 22 uses the scanned digitized chart

to construct a film profile, which is used to modify the scanned digital image. (Col. 2, lines 55-58; Col. 3, lines 49-67).

Gilman next describes techniques for creating color profiles. In particular, colorimetric data 40 for a target are combined with device code values 44 for the same target to produce a mathematical model that is then used to construct a profile 48. (Col. 6, lines 24-31; FIG. 3A). To create a profile for an image capture device, the colorimetric data for the target are obtained by measuring the target with a spectrophotometer or colorimeter. (Col. 6, lines 32-35). The image capture device then produces a digital image of the target, from which the device code values may be obtained. (Col. 6, lines 35-37).

Gilman then describes color management techniques that are used to produce an output image. In particular, an image is acquired by an image capture device 50, which may be a digital camera, film scanner, print scanner or other device. (Col. 6, lines 59-61). Digital image data 54 from image capture device 50 are input to image processing software 56, which also receives a capture device profile 60 and a display device profile 62. (Col. 6, lines 61-65). Image processing software 56 uses this information to produce modified image data 58, which are then supplied to image display device 52, which may be a printer or display device. (Col. 6, line 66 through Col. 7, line 6).

Thus, Gilman describes (1) creating a film profile for conventional photographic film by exposing photographic film to a target; (2) creating a profile of a digital input image device by creating a digital image of a target; and (3) applying color management techniques on image data from a digital image capture device to create output data for display on a printer or display device. None of these techniques, however, describe or suggest digital image processing methods or apparatus that compare acquired color values of regions of a digital image to known color values of regions of a target test sheet to align (i.e., to orient) the regions of the target test sheet with the regions of the digital image. Indeed, Gilman does not describe or suggest anything about aligning (i.e., orienting) target regions with digital image regions.

The Office action, however, states that Gilman describes such region alignment, and cites FIG. 3B, element 56 and Col. 6, line 60 through Col. 7, line 5. The cited portions, however, describe nothing more than applying input image data 54,

capture device profile 60 and display device profile 62 to image processing software 56, which then uses this information to produce modified image data 58 for display on image display device 52. Applicant respectfully submits that Gilman does not describe or suggest digital image processing methods or apparatus that compare acquired color values of regions of a digital image to known color values of regions of a target test sheet to align (i.e., to orient) the regions of the target test sheet with the regions of the digital image.

Because Gilman does not describe or suggest the claimed invention, applicant respectfully requests that the §102(e) rejections of independent claims 1 and 27 be withdrawn. Because all other claims depend from independent claims 1 or 27, applicant respectfully submits that the rejections of claims 1-4, 9-11, 15, 17-18, 25-27 and 31 be withdrawn.

Conclusion

For the reasons stated above, applicant submits that this application, including claims 1-4, 9-11, 15, 17-18, 25-27 and 31, is allowable. Applicant therefore respectfully requests that the Examiner allow this application.

Respectfully submitted,

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